UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northwest Region
7600 Sand Point Way N.E., Bldg. 1
Seattle, WA 98115

Refer to:
OSB1999-253

September 23, 1999

Mr. Gary L. Larsen
Forest Supervisor
Mt. Hood National Forest
16400 Champion Way
Sandy, Oregon 97055-2799

Re: Section 7 Consultation on Effects of the Proposed Ramsey Creek Flood Restoration Project on Middle Columbia River Steelhead, Mt. Hood National Forest, Wasco County, Oregon

Dear Mr. Larsen:

This responds to an August 26, 1999, letter from Gary Larson, Mt. Hood National Forest (MHNF) to Mike Tehan, National Marine Fisheries Service (NMFS), requesting formal consultation regarding the potential effects of the Ramsey Creek flood restoration project on Middle Columbia River (MCR) steelhead (*Oncorhynchus mykiss*). Ramsey Creek is a tributary to Fifteenmile Creek which enters the Columbia River just downstream from The Dalles Dam. The accompanying Biological Assessment (BA) described the proposed action and the environmental baseline, and addressed the effects of that action on MCR steelhead and their habitat. In the BA, the MHNF determined that the subject action is likely to adversely affect (LAA) MCR steelhead. The Level 1 team for the Middle Columbia portion of the MHNF met on August 3, 1999, to review the MHNF's effects determination and documentation of Aquatic Conservation Strategy (ACS) consistency for the subject action. The team concurred on the ACS consistency analysis and effects determination provided by the MHNF.

MCR steelhead were listed as threatened under the Endangered Species Act (ESA) by the NMFS on March 25, 1999 (64 FR 14517). The NMFS proposed critical habitat for MCR steelhead on February 5, 1999 (64 FR 5740). The proposed Ramsey Creek flood restoration project is within proposed critical habitat for MCR steelhead.

This letter constitutes formal consultation and serves as a biological opinion for MCR steelhead. The objective of this biological opinion is to determine whether the proposed action is likely to jeopardize the continued existence of MCR steelhead or result in the destruction or adverse modification of their proposed critical habitat.

PROPOSED ACTION

The proposed action is the restoration of approximately 4 miles of Ramsey Creek from the MHNF boundary at River Mile (RM) 3.5 upstream to RM 7.5. The stream restoration project involves placing approximately 325 to 400 thousand board-feet of large woody material (LWM) in the stream channel and floodplain. Approximately 60% of the LWM would be placed in the floodplain and 40% in the stream channel. The LWM would be moved to the project site via log truck over an existing road, stored along the road, and placed by an excavator. In order to accommodate the hauling of the LWM, the existing road would be improved by installing 2 or 3 temporary culverts, storm-proofing (rock armored drain dips and outsloping of the roadbed), realigning approximately 300 feet (away from the creek), brushing, blading, and shaping. After the hauling of LWM is completed, the road would be closed by removing culverts, hardening tributary stream crossings, stabilizing cut banks, subsoiling the road surface, and scattering slash and logs on the road to make it impassable to motor vehicles.

Limited amounts of excavation in the stream channel, streambank, and floodplain would be conducted in selected areas to increase the likelihood that the LWM will remain on site. Excavation would also occur on selected vertical streambanks, pulling them back to an approximate 45 degree angle to allow riparian vegetation to establish. In the lower 0.5 mile of the project area, near the MHNF boundary, approximately one third of the LWM would be cabled together to minimize the likelihood of its movement downstream onto private land. In the upper 3.5 miles of the project area, the LWM would be allowed to redistribute itself naturally during high flows. Beginning in 1999 and extending for up to a four year period, all in-channel work would be completed between July 15 and October 31. This is within the Oregon Department of Fish and Wildlife (ODFW) preferred in-water work window of July 1 to October 31 for the Fifteenmile Creek drainage. All refueling and servicing of mechanized equipment would be conducted outside Northwest Forest Plan (NFP) riparian reserves.

In addition to the placement of LWM and recontouring of selected streambanks, approximately 20 acres of understocked riparian area along Ramsey Creek in the project area would be planted with hardwoods and conifers. These riparian plantings would occur between 1999 and 2001. Planting of understocked riparian areas would result in development of shade producing trees which would also become a future source of LWM.

BIOLOGICAL INFORMATION AND CRITICAL HABITAT

The listing status and biological information for MCR steelhead are described in Busby et al. (1996). The NMFS proposed critical habitat for MCR steelhead on February 5, 1999 (64 FR 5740). The action addressed in this biological opinion is within the area proposed as critical habitat for MCR steelhead. MCR steelhead are known to spawn and rear in Ramsey Creek within the project site as well as upstream and downstream from it.

The BA states that the population of steelhead found in the Fifteenmile Creek watershed, including Ramsey Creek, is notable for being the eastern-most stock of wild winter steelhead in the Columbia River basin. They are the only extant stock of wild winter steelhead in Oregon that originated from redband/inland rainbow trout.

EVALUATING PROPOSED ACTIONS

The standards for determining jeopardy are set forth in Section 7(a)(2) of the ESA, as defined by 50 CFR Part 402 of the implementing regulations. NMFS must determine whether: (1) the action is likely to jeopardize the continued existence of the listed species; and (2) the action is likely to destroy or adversely modify critical habitat. This analysis involves the following steps: (A) Define the biological requirements of the species; (B) evaluate the environmental baseline relative to the species' current status; (C) determine the effects of the proposed or continuing action on the species; (D) determine whether the species can be expected to survive with an adequate potential for recovery under the effects of the proposed or continuing action, the environmental baseline and any cumulative effects, and considering measures for survival and recovery specific to other life stages; and (E) identify reasonable and prudent alternatives to a proposed or continuing action that is likely to jeopardize the continued existence of the species.

In summary, for spawning and rearing habitat, NMFS' jeopardy analysis considers direct and indirect mortality of MCR steelhead attributable to the proposed action. The NMFS' critical habitat analysis considers the extent to which the proposed action impairs the function of essential elements necessary for productive spawning and rearing of MCR steelhead.

Biological Requirements

The biological requirements of MCR steelhead are discussed in Busby et al. (1996). For this consultation, NMFS finds that the biological requirements of MCR steelhead are best expressed in terms of environmental factors that define properly functioning freshwater aquatic habitat necessary for survival and recovery of MCR steelhead. The NMFS defines this "properly functioning" condition as the state in which all of the individual habitat factors operate together to provide a healthy aquatic ecosystem that meets the biological requirements of the fish species of interest. Individual environmental factors include water quality, habitat access, physical habitat elements, channel condition, and hydrology. Properly functioning watersheds, where all of the individual factors operate together to provide healthy aquatic ecosystems, are necessary for the survival and recovery of MCR steelhead.

Environmental Baseline

The environmental baseline is an analysis of the effects of past and on-going human and natural factors leading to the current status of the species or its habitat and ecosystem within the action area. The action area is defined as all areas to be affected directly or indirectly by the Federal action and not

merely the immediate area involved in the action (50 CFR 402.02). For the proposed Ramsey Creek restoration project, the action area, therefore, includes the mainstem of Ramsey Creek from the upper end of the project area at RM 7.5 downstream to the MHNF boundary at RM 3.5.

The current population status and trends for MCR steelhead are described in Busby et al. (1996). Environmental baseline conditions within the action area were evaluated for the subject action at the project level and watershed scales. This evaluation was based on the "matrix of pathways and indicators" (MPI) described in "Making Endangered Species Act Determinations of Effect for Individual or Grouped Actions at the Watershed Scale" (NMFS 1996). This method assesses the current condition of instream, riparian, and watershed factors that collectively provide properly functioning aquatic habitat essential for the survival and recovery of the species.

In the Ramsey Creek drainage (6^{th} field sub-watershed), 3 of the 18 habitat indicators in the MPI were rated as properly functioning. These were: nutrients, substrate, and off-channel habitat. Ten of the 18 were rated as functioning "at risk." These were: sediment, physical barriers, large woody debris, pool quality, refugia, streambank condition, floodplain connectivity, peak/base flows, drainage network increase, and riparian reserves. Temperature, pool frequency, width/depth ratio, road density and location, and disturbance history were rated as not properly functioning. The environmental baseline conditions for each habitat indicator in the MPI are described in the BA and incorporated herein by reference.

ANALYSIS OF EFFECTS

Effects of Proposed Action

In the BA, the MPI (NMFS 1996) was used to predict the effects of the action on current aquatic conditions (the environmental baseline). This assessment method was designed to provide adequate information in a tabular form for NMFS to determine the effects of actions subject to ESA consultation. The effects of the actions are expressed in terms of the expected effect (restore, maintain, degrade) on each of 18 aquatic habitat factors in the action area, as described in the "checklist for documenting environmental baseline and effects of the action" (checklist) (NMFS 1996) completed for each action and associated watershed. The results of the completed checklist for the action provide a starting point for determining the overall effect of the action on the environmental baseline.

Implementation of the proposed Ramsey Creek restoration project is expected to have long term beneficial effects on aquatic habitat in the project area. Providing structure to the stream channel and flood plain should aggrade the channel in downcut areas, which should increase sinuosity, decrease stream gradient, increase stream length, increase the number of large pools, and reconnect the stream and the flood plain. These changes would result in improved spawning, rearing, and feeding habitat for MCR steelhead at a wide range of flows. Planting trees in riparian areas will improve shade, provide a future source of LWM and reduce erosion. Increased stream shade will reduce stream temperatures.

The LWM habitat parameter would be restored at the 6th field sub-watershed scale by the proposed action. Improvement toward restoration is also expected in the project area in pool frequency, pool quality, refugia, width/depth ratio, floodplain connectivity, road density, and riparian reserve parameters; however, these parameters would only be maintained at the 6th field sub-watershed scale. The analysis of potential effects on each habitat indicator in the MPI are described in the BA and incorporated herein by reference.

Short-term negative effects of the project include disturbance and redistribution of fine sediment in the stream channel and increased turbidity resulting from instream work. There is also the possibility of the excavator killing juvenile fish while placing logs and performing other in-water work. Overall, direct mortality is expected to be minimal, because juvenile MCR steelhead will likely avoid the excavator and can move freely upstream or downstream from the project area.

Somewhat longer term indirect effects could occur after completion of the project. LWM placed in the stream channel will cause changes in channel hydraulics which may result in streambank erosion in some locations. Recontoured streambanks may also contribute sediment to the stream until revegetation occurs. Completion of the restoration project over a four year period (necessitated by the scope of the project) rather than in one entry could prolong soil disturbance and result in increased potential for sedimentation from some sites in the project area. Overall, however, the proposed project is expected to result in long-term beneficial effects on the aquatic habitat in Ramsey Creek.

Cumulative Effects

Cumulative effects are defined in 50 CFR 402.02 as those effects of "future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation." The action area for this consultation includes the mainstem of Ramsey Creek from the upper end of the project area at RM 7.5 downstream to the MHNF boundary at RM 3.5. The MHNF identified no specific private or state actions that are reasonably certain to occur in the future that would affect MCR steelhead or their habitat within the action area. The upper 9 miles of Ramsey Creek are on MHNF land, while the lower 3.5 miles are on private land.

Significant improvement in MCR steelhead reproductive success outside of MHNF lands is unlikely without changes in agricultural and other land and water management practices occurring within the non-Federal riparian areas in the Fifteenmile Creek 5th field watershed of which Ramsey Creek is a part. Given that the MCR steelhead is listed as threatened and critical habitat has been proposed, NMFS assumes that non-Federal land owners will take steps to curtail or avoid land management practices that would result in the take of MCR steelhead. NMFS is not aware of any specific future actions which are reasonable certain to occur on non-Federal lands. Until improvements in non-Federal land management practices are actually implemented, NMFS assumes that future private and State actions will continue at similar intensities as in recent years.

CONCLUSIONS

The NMFS has determined that, when the effects of the Ramsey Creek restoration project addressed in this biological opinion are added to the environmental baseline and cumulative effects occurring in the action area, they are not likely to jeopardize the continued existence of MCR steelhead. Additionally, the NMFS concludes that the subject actions would not cause adverse modification or destruction of proposed critical habitat for MCR steelhead. This conclusion was reached primarily because: (1) all in-water work would be completed during the ODFW's preferred in-water work period between July 1 and October 31 before adults return to spawn and after smolts have migrated to sea; (2) juvenile MCR steelhead which may be rearing in the project area are likely to avoid machinery working in the stream by moving upstream or downstream from the work site during construction; (3) best management practices will be implemented to minimize transport of sediment into the stream and to areas downstream from the project area both during and after construction; and (4) potential for entry of hazardous materials to the stream channel would be minimized, as all refueling or servicing of mechanized equipment will occur outside riparian reserves. To reach these conclusions, NMFS used the best scientific and commercial data available as documented herein and by the BA.

CONSERVATION RECOMMENDATION

Section 7 (a)(1) of the ESA directs Federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of the threatened and endangered species. Conservation recommendations are discretionary measures suggested to minimize or avoid adverse effects of a proposed action on listed species, to minimize or avoid adverse modification of critical habitat, or to develop additional information. The NMFS believes that the following conservation recommendation for the action addressed in this Opinion should be implemented:

Manage the road used to transport LWM to the project stream reach, during the four-year implementation of the project to minimize sediment input to Ramsey Creek and its tributaries.

REINITIATION OF CONSULTATION

Reinitiation of consultation is required if: (1) the action is modified in a way that causes an effect on the listed species that was not previously considered in the BA and this Biological Opinion; (2) new information or project monitoring reveals effects of the action that may affect the listed species in a way not previously considered; or (3) a new species is listed or critical habitat is designated that may be affected by the action (50 CFR 402.16).

INCIDENTAL TAKE STATEMENT

Sections 4 (d) and 9 of the ESA prohibit any taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct) of listed species without a specific

permit or exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, and sheltering. Harass is defined as actions that create the likelihood of injuring listed species to such an extent as to significantly alter normal behavior patterns which include, but are not limited to, breeding, feeding, and sheltering. Incidental take is take of listed animal species that results from, but is not the purpose of, the Federal agency or the applicant carrying out an otherwise lawful activity. Under the terms of Section 7(b)(4) and Section 7(o)(2), taking that is incidental to, and not intended as part of, the agency action is not considered prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

An incidental take statement specifies the impact of any incidental taking of endangered or threatened species. If necessary, it also provides reasonable and prudent measures that are necessary to minimize impacts and sets forth terms and conditions with which the action agency must comply in order to implement the reasonable and prudent measures.

Amount or Extent of Take

The NMFS anticipates that the subject action covered by this biological opinion has more than a negligible likelihood of resulting in incidental take of MCR steelhead. Some minimal level of incidental take is expected to result from direct mortality or injury to MCR steelhead during placement of LWM and excavation in the stream channel. The temporary increase in stream turbidity resulting from the action could result in temporarily reduced feeding efficiency for juvenile MCR steelhead. Direct mortality is expected to be minimal, because juvenile MCR steelhead are able to avoid instream construction activities. Effects from turbidity are also expected to be minimal because turbidity levels will quickly return to pre-construction levels once instream work is completed. Because of the inherent biological characteristics of aquatic species such as MCR steelhead , however, the likelihood of discovering take attributable to this action is very small. Effects of actions such as the Ramsey Creek restoration project addressed in this biological opinion are largely unquantifiable in the short-term, and may not be measurable as long-term effects on the species' habitat or population levels. Therefore, even though NMFS expects some incidental take to occur due to the action covered by this biological opinion, the best scientific and commercial data available are not sufficient to enable NMFS to estimate a specific amount of incidental take of listed fish at any life stage.

Effect of the Take

In this Biological Opinion, NMFS has determined that the level of anticipated take is not likely to result in jeopardy to MCR steelhead or to destroy or adversely modify proposed critical habitat.

Reasonable and Prudent Measures

The NMFS believes that the following reasonable and prudent measures are necessary and appropriate to avoid or minimize take of MCR steelhead resulting from the subject action.

1. The MHNF shall minimize the amount and extent of incidental take from in-water channel reconstruction activities in Ramsey Creek.
2. The MHNF shall minimize the amount and extent of incidental take and impacts to critical habitat from erosion and chemical pollution.
3. The MHNF shall monitor the effectiveness of erosion control measures and riparian plantings.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the ESA, the MHNF must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

1a. All work below the ordinary high water line will be completed within ODFW's in-water work period for Ramsey Creek (July 1- October 31). Any extensions of the in-water work period will first be approved by and coordinated with ODFW and NMFS prior to implementation.

1b. When placing LWM and recontouring streambanks the excavator will be positioned on the streambank (out of the water) to the maximum extent practicable.

2a Areas for fuel storage and refueling and servicing of construction equipment and vehicles will be located at least 150 feet away from any water body. Spill control materials will be on site during construction activities.

2b Appropriate sediment control measures (e.g., silt fences, straw bales) shall be implemented to minimize sediment transport into the stream and downstream from the channel reconstruction and streambank recontouring sites.

2c In areas where vertical streambanks are pulled back, the recontoured streambank shall be planted with native trees, shrubs, and grasses as appropriate.

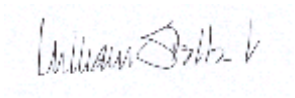
2d All equipment that is used for instream work will be cleaned of external grease, oil, and mud prior to entering the project area. Cleaning of equipment shall occur outside riparian reserves.

3a. The MHNF shall monitor the success of plantings and effectiveness of erosion control measures in the project area on at least three occasions per year (e.g. one month, six months, and one year), or more often if necessary, during implementation and for one year after completion of the project.

3b. Failed plantings and erosion control measures shall be replaced, if replacement would potentially result in success, or alternative measures shall be implemented.

This concludes formal consultation. Please direct any questions regarding this consultation to Ron Lindland of my staff in the Oregon State Branch Office at 503-231-2315.

Sincerely



William Stelle, Jr.
Regional Administrator

cc: Jeff Dillon, U.S. Fish and Wildlife Service
Jim Newton, Oregon Department of Fish and Wildlife

REFERENCES

Section 7(a)(2) of the ESA requires biological opinions to be based on "the best scientific and commercial data available." This section identifies the data used in developing this opinion in addition to the BA.

Busby, P.J., T.C. Wainwright, G.J. Bryant, L.J. Lierheimer, R.S. Waples, F.W. Waknitz, and I. V. Lagomarsino. 1996. Status Review of West Coast Steelhead from Washington, Idaho, Oregon, and California. NOAA Technical Memorandum NMFS-NWFSC-27. August. 261 p.

National Marine Fisheries Service (NMFS). 1997. Status Review Update for Deferred and Candidate ESUs of West Coast Steelhead. December 62 p.

National Marine Fisheries Service (NMFS). 1996. Making ESA Determinations of Effect forIndividual or Grouped Actions at the Watershed Scale. NMFS, Environmental and Technical Services Division, Habitat Conservation Branch, 525 NE Oregon Street, Portland, Oregon. 28 p.